

REMARKS

The Office Action dated July 16, 2003, has been carefully considered. In the Office Action, claims 56-59 were indicated to include allowable subject matter while claims 1-25, 38-55 and 60-75 were rejected over various references of record. By way of this amendment, claims 2, 11, 16, 38, 47, 50 and 57 have been amended. Claims 76-83 have been added to provide claims with additional distinctions over the cited references. Claims 1-25 and 38-83 remain in the present patent application.

First, turning to the § 102 anticipation rejection, claims 38, 42-45, 60 and 61 were rejected as anticipated over O'Brien et al., U.S. Patent No. 5,895,173. In response, claim 38 has been amended to more clearly differentiate the cited O'Brien et al. reference. In particular, claim 38 now recites that intermixing of asphalt binder and aggregate material is substantially prevented not only prior to application, but also "prior to contact of the aggregate material and spraying of asphalt binder material with roadway surface". Clearly, this is not disclosed or taught by O'Brien et al. In fact, the direct opposite is taught in that nozzles 42 and 51 as shown in FIG. 2 of O'Brien et al. are directed at and spray the aggregate material as it is falling prior to contact. Further, because claim 38 now has a recitation that is clearly directly contrary to the teachings of O'Brien et al., it is respectfully submitted that there should be no obviousness grounds asserted against claim 38 since it would require modifying O'Brien et al. directly contrary to its express teachings. See e.g. MPEP § 2143.01, setting forth that a "proposed modification cannot render the prior art unsatisfactory for its intended purpose"; and a "proposed modification cannot change the principle of operation of a reference". Therefore, Applicant respectfully requests that claim 38 and its dependents be allowed.

Applicant has also added claim 83 which is similar to claim 38, but instead of including the amendments to claim 38, claim 83 recites "keeping substantially all of the spraying of asphalt binder material in front of the discharging of aggregate material such that asphalt binder material is not sprayed behind the aggregate material." However, similar to amended claim 38, claim 83 also sets forth a claim recitation that is the direct opposite of the cited O'Brien et al. In particular, O'Brien et al. teaches an entire spray bar with two sets of nozzles behind the falling aggregate material and therefore does not keep substantially all of the spraying of asphalt binder material in front of the aggregate material. Accordingly, claim 83 should also likewise be allowable.

Turning to the anticipation rejection of claim 60, this rejection is respectfully traversed. Claim 60 recites that the aggregate material dispensing system includes "a

conveyor mechanism extension extending substantially between the front and rear ends for transporting aggregate material rearwardly toward the discharge port". No such conveyor mechanism that extends between the front and rear ends of the vehicle is disclosed in O'Brien et al. Accordingly, the anticipation rejection cannot stand as anticipation requires that each and every element and limitation be disclosed in a single prior art reference under MPEP § 2131. Accordingly, Applicant respectfully requests the Patent Examiner to withdraw the anticipation rejections of claim 60. For the patentability reasons set forth further below for claims 1 and 15, it is respectfully submitted that obviousness also cannot be established based upon the cited references of record. Accordingly, claim 60 and its dependents are believed to patentably define over the prior art and an indication of allowance is solicited.

It should be noted that claims 80, 81, and 82 have also been added which depend upon claim 60 which even further distinguish and differentiate O'Brien et al. Claim 80 sets forth that the nozzles and discharge port are arranged with substantially non-intersecting trajectories to substantially prevent mixing of aggregate and binder material prior to ground surface contact. Again, this is directly against the teachings of O'Brien et al. which specifically teach coating the aggregate material as it is falling from the discharge port prior to contact. Claim 81 sets forth an arrangement that makes clear that a spray bar is not arranged behind the aggregate material discharge port, again directly contrary to the express teachings of O'Brien et al. Therefore, under MPEP § 2143.01 (see noted quotes above), these claims should certainly be patentable over any combination involving O'Brien et al. Claim 82 sets structure that enables a continuous operation mode. This claim should be additionally patentable since it is not seen that the prior art provides for a continuous chipsealing operational mode as claimed, as should be further evident from the discussion below regarding the obviousness rejections.

Turning now to the obviousness rejections, a number of obviousness rejections have been advanced against the remaining claims, all based over the primary reference O'Brien et al., U.S. Patent No. 5,895,173. Two different groups of obviousness rejections are advanced including a first group of rejections based upon O'Brien et al. in view of secondary references, Soliman et al. and Heiligttag et al. (and in further view of other additional references for certain claims); and a second group of rejections based upon O'Brien et al. in view of secondary references Bense et al. and Clark Jr. (in further view of other additional references for certain claims). Applicant will focus primarily on the independent claims, because if the independent claims are allowable, then inherently the dependent claims are allowable for at least the same reasons.

Applicant believes that the obviousness rejections are being made with the improper use of hindsight, using Applicant's specification as a guide as to how to choose and combine prior art references. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (Combining prior art references without evidence of ... a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight").¹ Applicant hopes improper use of hindsight will become apparent to the Patent Examiner upon review of Applicant's following remarks about the references and the rationale of the present invention.

The primary reference O'Brien et al. relates to chipsealing apparatus that has the objective of providing a thicker chipseal pavement through the use of four different arranged sets of nozzles, some of which are directed at the aggregate material. Indeed, the listed objectives relate to allowing for thicker chip sealing pavement to be accomplished (see e.g. Cols. 2, Ins. 28-40 and the problem identified in column 2, lines 5-10). Although O'Brien et al. relates to chipsealing, none of the other secondary references for the base obviousness rejections deals with chipsealing machinery (in fact, the cited Bense et al. reference goes into great detail in the background section why chipsealing is not a desirable process). Nor do these secondary references have teachings relating to the stoppage or non-continuous process problems of chipsealing which are identified and solved by the present invention. Bense et al. and Soliman et al. each relate to dressed prepared pavement applications (the aggregate and binder are premixed and spread rather than discharged), while Heilitag et al. and Clark Jr. relate to a separate liquid dispensing vehicle that has no provision for aggregate discharge. The fact that none of these references have teachings relating to the problems or solution of the present invention evidences hindsight.

Specifically, in contrast to O'Brien et al., the present invention is directed toward a continuous paving process in which the local supplies of aggregate and binder material on a paving vehicle can be refilled with external supplies, while simultaneously continuing to pave. This avoids bumps or road imperfections that heretofore have typically resulted from conventional chipsealing operations due to stoppage of the process when the material supply

¹For an extensive discussion of hindsight see also In re Rouffet, 149 F.3d 1350, 1357, 1359, 47 USPQ2d 1453, 1457, 1458 (Fed. Cir. 1998) ("As this court has stated, 'virtually all [inventions] are combinations of old elements.' Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); see also Richdel, Inc. v. Sunspool Corp., 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) ('Most, if not all, inventions are combinations and mostly of old elements.'). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue ... [When the Examiner does] not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of [the] invention, this court infers that the examiner selected these references with the assistance of hindsight. This court forbids the use of hindsight in the selection of references that comprise the case of obviousness")

is spent. The background section for the present invention discusses that conventional chipsealing operations have conventionally used two different vehicles. Although O'Brien et al. does disclose a proposal to provide a aggregate and binder dispensing system on a single apparatus, it does not provide the motivation or teaching for a continuous chipsealing process, but is directed toward a thicker chipseal process. To provide a much thicker chipseal surface, it is inferred that a large amount of binder material is required for the four sets of nozzles depicted in the figures (not to mention the extra required aggregate material to provide for thicker paving surface). Therefore, use of more material would more quickly deplete supplies and it is not believed that one of ordinary skill would be led by the O'Brien et al. proposal toward a continuous process. Applicant notes that O'Brien et al. states that the subject paving apparatus 20 may be part of a self-propelled carrier vehicle or is towed by a separate vehicle. See Col. 3, lns. 47-50. However, the ready inference as indicated in FIG. 1 from the asphalt binder conduits shown leading to a second apparatus and not an onboard tank appears to be in order to provide for a sufficient amount of asphalt binder material sufficient to provide the much thicker chip sealing process.

The secondary references do not cure the deficiencies or suggest providing O'Brien et al. with a continuous mode. Helitag and Clark Jr. expressly teach use of a separate liquid application vehicle that does not dispense aggregate. Soliman et al. appears to only disclose a dressed aggregate paving machine without a provision for binder material used in chipsealing processes. Thus, a combined onboard local supplies of aggregate and binder is not a fair reading of these references. Instead, the teaching of these secondary references is the problem noted in the present invention of separate vehicles being used. Thus, the secondary references teach the problem and not the solution.

Although Bense et al. does disclose a paving machine with onboard supplies of binder material and aggregate material, this reference goes into great detail why chipsealing is undesirable in columns 1 and 2 (starting at Col. 1, ln 14). Therefore, it is not seen why one skilled in the art motivated to make a chipsealing process would look to the teachings of a reference that basically says chipsealing processes are not undesirable and that instead would lead one to use a different onboard mixed dressed aggregate process (in contrast e.g. to claims 1, 15, and 60 which set forth separated aggregate and binder systems to prevent onboard mixing). In any event, Bense et al. would not teach one how to make a continuous chipsealing process since, it relates to a different type of paving process that has substantially different considerations.

With the fair teachings of the art above considered as presented above, Applicant believes that it becomes apparent that rejected claims 1 and 15 set forth a structure or a

method which enables a continuous chipsealing mode, which is not obvious from the cited prior art. For example, claim 1 sets forth a structure for a roadway paving apparatus that enables such a continuous-type chip sealing mode by virtue of the input hopper to receive aggregate material and a conveyor mechanism which transfers the received aggregate to an output hopper disposed proximate the rear end of the vehicle, as well as the provision for an on board asphalt binder supply and pump. Claim 15 similarly has storing and transporting steps that similarly enable a continuous chipsealing mode. With O'Brien et al. directed toward a thicker chipsealing process, and not a continuous process, and the cited secondary references against the independent claims not seen to provide teachings to cure these deficiencies or otherwise convert O'Brien et al. into a system with a continuous mode, it is not believed there is motivation or teaching in the art for making the asserted combination. It is believed this combination that it is being made with the improper use of hindsight.

Further, the specific obviousness rejections are traversed for other independent reasons. Regarding the asserted combination of O'Brien et al. in view of Soliman et al. and Heilitag et al. if one were to add the subject storage tank 47 of Heilitag et al. into the combination, it should be noted that this tank 47 is taught as being placed at the very front end of the vehicle, the same place where the asserted input hopper of Soliman et al. is located. Thus, the physical combination of Soliman et al. and Heilitag et al. effectively would result with a vehicle with two different structures occupying the exact same space. This further evidences that the rejections are being made with the assistance of hindsight, without a proper motivation coming from the prior art and that the obviousness rejections are otherwise improper.

Regarding the asserted combination of O'Brien et al. in view of Bense et al. and Clark Jr, the teachings of that reference suggest using the conveyor not to fill the dry aggregate output hopper 36, but to dump material directly upon the ground without a controlled discharged port on the output hopper. Instead, Bense et al. suggests spreading the material when on the ground. No provision is made for refilling dry aggregate hopper 36 in a continuous operation mode. Clark Jr. also fails to cure these deficiencies. Accordingly, these rejections are respectfully submitted to be improper for these additional reasons.

In view of the foregoing, it is respectfully requested that the obviousness rejections be withdrawn. Because independent claims 1 and 15 are believed to patentably define over the prior art, the dependent claims also distinguish the prior art for at least the same reasons.

Turning to other issues and claims, the rejections of claim 47 should be obviated by virtue of the incorporation of claim 56, which was indicated to include allowable subject

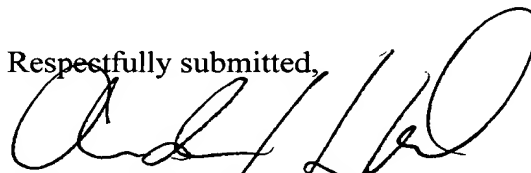
matter, into claim 47. Some broadening amendments to claim 47 are made as this claimed combination is believed to have other general applications in the paving industry.

Attention should also be given to dependent claims. Although claim 2 is believed to be allowable for the same reasons as claim 1, claim 2 has been further amended to provide recitations that are directly against the teachings of O'Brien et al. Accordingly, claim 2 is believed to be separately patentable for that additional reason. Claim 16 has been amended to more clearly set forth a continuous process. It is not seen that the asserted combination fairly teaches a continuous process. Therefore, claim 16 is also believed to be separately patentable. Also, claim 76 has been added to provide limitations which are also directly against the teachings of O'Brien et al. O'Brien et al. teaches a rear spray bar that provides for a third layer needed for the thicker pavement structure. Claim 77 is similar to claim 76 but in method format. Accordingly, claims 76 and 77 are also directly against the teachings of O'Brien et al. Therefore, any proposed modification of O'Brien et al. would be with hindsight and directly contrary to the specific teachings of O'Brien et al. Therefore, Applicant asks that due consideration also be given to claim 2 as amended and new claims 76-82, which are directly contrary to the principle reference relied upon.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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